

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 11, 14, 15, 21 and 25 and CANCEL claims 1-10, 13, 24, and 37-44 without prejudice or disclaimer in accordance with the following:

1.-10. (Cancelled)

11. (Currently Amended) A disc type recording medium for recording information by forming a plurality of disc tracks, the medium comprising:

at least two first sections in which the disc tracks are formed using a first function having a first frequency; and

at least one second section in which the disc tracks are formed using a second function having a second frequency, which is less than the first frequency,

wherein the second section is positioned between the first sections, the second section is allotted to record address information for disc access and comprises two first sub sections using the second function and a second sub section using a third function having a frequency that is the same as the first frequency, and the third function has a different phase from a phase of the first function.

12. (Original) The medium of claim 11, wherein the first sections are used for a PLL and the first function has a single frequency.

13. (Cancelled)

14. (Currently Amended) The medium of claim ~~43~~11, wherein the two first sub sections have the same frequency but different phases.

15. (Currently Amended) The medium of claim ~~43~~11, wherein the second sub

section is positioned between the first sub sections.

16. (Original) The medium of claim 11, wherein the second frequency is half of the first frequency.

17. (Original) A disc type recording medium for recording information by forming disc tracks, the medium comprising:

at least two first sections in which the disc tracks are formed using a first function, the first function having a primary differential value; and

at least one second section in which the disc tracks are formed using a second function, the second function having a primary differential value, wherein,

the second section is positioned between the first sections,

the difference between primary differential values of the first and second function at points where the first sections and the second section meet is less than 50% of the primary differential value of the first function, and

the second function used in the second section has a point at which the primary differential value is 0 or does not include discontinuities.

18. (Original) The medium of claim 17, wherein in the first section is used for a PLL and the function has a single frequency.

19. (Original) The medium of claim 17, wherein the second section is allotted to record address information for disc access and comprises two first sub sections using the second function and a second sub section using a third function having a frequency that is the same as a frequency of the first function,

wherein the second sub section is positioned between the first sub sections and the third function has a different phase from a phase of the first function.

20. (Original) The medium of claim 16, wherein the first function is expressed as $-\sin(2 * \pi * f_{wob} * t)$ and the second function is expressed as $\{2 * (t - R_a) * f_{wob}\}^4 - 1$ or $1 - \{2 * (t - R_a) * f_{wob}\}^4$,

wherein $R_a = [t * f_{wob}] / f_{wob} + 1 / (2 * f_{wob})$ and $[t * f_{wob}]$ is a maximum integer that does not exceed $t * f_{wob}$.

21. (Currently Amended) A method of forming disc tracks for recording information, comprising:

forming disc tracks using a first function in a plurality of first sections of a disc type recording medium; and

forming disc tracks using a second function in a second section of the disc type recording medium,

wherein the first function and the second function have frequencies, and the frequency of the second function is less than the frequency of the first function, -and

the second section is positioned between the first sections,

the second section is allotted to record address information for disc access and includes two first sub sections, each first subsection using the second function, and a second sub section using a third function having a frequency that is the same as the frequency of the first function, and

the first function has a phase and the third function has a phase that is different than the phase of the first function.

22. (Original) The method of claim 21, wherein in the first section is used for a PLL.

23. (Original) The method of claim 22, wherein the first function has a single frequency.

24. (Cancelled)

25. (Currently Amended) The method of claim ~~24~~21, wherein the second function used in each of the first sub sections has the same frequency but a different phase, and the second sub section is positioned between the first sub sections.

26. (Original) The method of claim 21, wherein the frequency of the second function is half the frequency of the first function.

27. (Original) A method of forming disc tracks for recording information,

comprising:

forming disc tracks using a first function in a plurality of first sections of a disc type recording medium, the first function having a primary differential value; and

forming disc tracks using a second function in a second section of the disc type recording medium, the second function having a primary differential value,

wherein the second section is positioned between the first sections and the difference between primary differential values of the first and second functions at points where the first sections and the second section meet is less than 50% of the primary differential value of the first function, and the second function has a point at which the primary differential value is 0 or does not include discontinuities.

28. (Original) The method of claim 27, wherein the first sections is used for a PLL.

29. (Original) The method of claim 28, wherein the first function has a single frequency.

30. (Original) The method of claim 27, wherein the second section is allotted to record address information for disc access and comprises two first sub sections using the second function and a second sub section using a third function having a frequency that is the same as the frequency of the first function,

wherein the second sub section is positioned between the first sub sections, and the third function has a different phase from a phase of the first function.

31. (Original) The method of claim 27, wherein the first function is expressed as $-\sin(2 * \pi * f_{wob} * t)$ and the second function is expressed as $\{2 * (t - R_a) * f_{wob}\}^4 - 1$ or $1 - \{2 * (t - R_a) * f_{wob}\}^4$,

wherein $R_a = [t * f_{wob}] / f_{wob} + 1 / (2 * f_{wob})$ and $[t * f_{wob}]$ is a maximum integer that does not exceed $t * f_{wob}$.

32.-44. (Cancelled)

45. (Previously Presented) The medium of claim 11, wherein the second frequency is

$1/k$ times the first frequency, where k is a positive integer.

46. (Previously Presented) The medium of claim 21, wherein the frequency of the second function is $1/n$ times the frequency of the first function, where n is a positive integer.